

REMARKS

This is in response to the Office Action mailed on November 18, 2004, and the references cited therewith.

No claims are amended, canceled, or added; as a result, claims 1-30 are now pending in this application.

Double Patenting Rejection

Claims 1, 5, 11, 18 were rejected under the judicially created doctrine of obviousness-type double patenting over claim 1 of U.S. Patent Application No. 09/751,955. This rejection is respectfully traversed, as the Office Action specifically indicates that the elements of the claims are different in “the claimed way the slack is allocated.” Thus, a prima facie showing of obviousness has not been established, and the rejection should be withdrawn. Further, the rejection is not ripe for examination, as U.S. Patent Application No. 09/751,955 has not yet issued.

To establish an obviousness-type double patenting rejection, the Examiner has the burden to show that (1) the inventions claimed (2) are not patentably distinct and (3) are based on a prima facie showing of obviousness. This analysis must be based on what the claim defines and not on the claim language itself, as required by the Federal Circuit:

[I]t is important to bear in mind that comparison can be made only with what invention is *claimed* in the earlier patent, paying careful attention to the rules of claim interpretation to determine what invention a claim *defines* and not looking to the claim language for anything that happens to be mentioned in it as though it were a prior art reference. ... [W]hat is claimed is what is *defined by the claim taken as a whole*, every claim limitation ... being material. *General Foods Corp. V. Studiengesellschaft Kohle mbH*, 972 F.2d 1272, 23 USPQ2d 1839, 1845 (Fed. Cir. 1992). (emphasis in original.)

Applicant respectfully submits that the Office Action has not made a prima facie case of judicially-created obviousness-type double patenting because the Examiner has not established a prima facie showing of obviousness.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). To do that the Examiner must show that some objective teaching in the prior art or some knowledge

generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *Id.*

The *Fine* court stated that:

Obviousness is tested by "what the combined teaching of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 878 (CCPA 1981)). But it "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *ACS Hosp. Sys.*, 732 F.2d at 1577, 221 USPQ at 933. And "teachings of references can be combined *only* if there is some suggestion or incentive to do so." *Id.* (emphasis in original).

The M.P.E.P. adopts this line of reasoning, stating that

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).

All the claim limitations are not shown in the claims of application serial number 09/751,955 (the '955 application). The Examiner specifically states that the difference between the '955 application and the present application is the claimed way the slack is allocated. The '955 application "uses priority while this application uses time partition. It would have been obvious to one of ordinary skill in the art that the slack of the system be allocated based on different time set in order to determine which time gets the slack first. The two systems are capable of performing the same outcome therefore, they are not patentably distinct from each other."

As recited above, this is clearly not the test for obviousness type double patenting. The test is whether the limitations themselves are taught or suggested. Since, as the Examiner specifically admits, the applications allocate time differently, the claims are different, and all the claim limitations are not taught or suggested. The capability of performing the same outcome is simply not the test, and does not indicate that the elements are taught or suggested.

A Terminal Disclaimer in compliance with 37 CFR 1.321(b)(iv) may be provided at a future date to obviate these rejections, but will not constitute an admission that the rejections are correct.

§103 Rejection of the Claims

Claims 1-30 were rejected under 35 USC § 103(a) as being unpatentable over Atlas et al. ('Slack Stealing Job Admission Control') in view of Ezer et al. (U.S. Patent No. 6,275,239). This rejection is respectfully traversed on the basis that the combined references do not teach or suggest each and every element, and that the references are not properly combinable for at least one of several reasons including, they are directed at different problems, there is no proper suggestion to combine them, the combination is based on hindsight, and a reasonable expectation of success in making the combination has not been established.

Atlas discloses a slack-stealing job admission control system for scheduling periodic firm-deadline tasks with variable resource requirements. See Abstract. The Examiner admits that, and Applicants are unable to find mention of any teaching of the use of setting different time partitions.

Ezer discloses a media coprocessor for performing 3D graphics, video, and audio functions. See Abstract. An update interval, synchronized to a video frame, is divided into a number of partitions for sequential processing of audio, video, and 3D graphics. It is noted that Applicants are unable to find any mention whatsoever of "slack" or "allocating slack" within Ezer.

Regarding independent claim 1, the Examiner concedes that Atlas fails to disclose the use of setting different time partitions. However, the Examiner states it would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Atlas and Ezer to ensure that different time partitions have access to slack. The Examiner argues that by being able to allocate slack to different time partitions, the user can determine which tasks get the slack first, thus making the entire system more efficient.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); MPEP § 2143. The argument

presented by the Examiner to combine the references is clearly based on the claimed combination. In other words, the Examiner takes the claimed combination, and its attendant benefits, and then picks features from unrelated references, combines them, and states that it provides the benefits of the claimed invention. Nowhere is a suggestion to make the combination found in the prior art. Rather, the benefit provided by the combination itself is used as the suggestion. This is clearly improper, and the rejection should be withdrawn.

In the Response to Arguments section of the Office Action, the Examiner indicates that “Ezer also provides motivation as to why one would want to include the use of time-partitioned tasks in an invention (col. 1, line 60 – col. 2, line 7).” This language is reproduced here for convenience:

“In contrast, the present invention provides a much less expensive computing system without sacrificing much in the way of functionality, quality, and versatility. The present invention achieves this by designing a single, integrated media co-processor chip which is capable of processing graphics, video and audio. This reduces costs because it minimizes duplicate functionalities and redundant circuitry. With the media co-processor chip, the present invention partitions different media tasks so that they are performed sequentially in a time-division multiplexed format. For a given amount of time synchronized to the video frame, a specified amount of time is partitioned to perform audio tasks; a specified amount of time is partitioned to process video; and the time left over is partitioned to render graphics.”

Applicants fail to see how this language suggests the inclusion of time partitions in a slack stealing algorithm. Rather, it appears to point to dividing media tasks into partitions, and then timing execution of the partitions so that all are completed for a video frame. There is no indication that additional tasks need to be scheduled or considered, and no teaching to suggest that it would be applicable in a slack stealing algorithm. It appears to be directed to an entirely different problem, which further points away from finding a suggestion to combine it with Atlas.

Independent claim 1 recites *inter alia* a method of allocating slack to tasks in different time partitions in a data processing system executing tasks in different time partitions.

Applicants respectfully assert that the Examiner fails to provide any specific factual basis within either Atlas or Ezer that would provide any credible motivation to combine these two complex inventions in the manner suggested by the Examiner. Moreover, Applicants respectfully points out that the **Examiner has failed to provide any specific basis (i.e. column or page, and line number) within either reference for the limitation “allocating slack to tasks in different time partitions”**. Thus, even if the references are combined, the combination does not teach or suggest each and every claim element. To establish a *prima facie* case of obviousness under 35 U.S.C. §103, the prior art reference (or references when combined) must teach or suggest every limitation of the claim. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA, 1974). MPEP §2143.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)). **No reasonable expectation of success in combining the references has been pointed to by the Examiner.** Ezer appears to contain no disclosure whatsoever concerning “slack” or “allocating slack”. Nor, as the Examiner concedes, does Atlas appear to contain any disclosure concerning “executing tasks in different time partitions”. Thus, there is no indication within the references themselves that combining them would succeed in producing the claimed invention.

These references describe fairly complex algorithms for very different computer science concepts. Ezer describes different partitions for processing very different types of data, including audio data, video data and 3-D graphics on a single media coprocessor chip. The partitions are synchronized to process each type of data for and during a single video frame. This is a very narrow graphics oriented computer processing concept. Atlas describes a complex algorithm for slack stealing involving a slack stealing job admission control, which is a generalization of Rate Monotonic Scheduling and a semiperiodic task model, involving probability density functions and independent and identically distributed random variables for resource requirements for jobs. See pages 2-4. It is a radically different approach to a very different problem from Ezer. The Examiner has not pointed out where the references provide a reasonable expectation of success in combining them, much less an actual suggestion to combine

them based on the teaching of the prior art. Thus, a *prima facie* case of obviousness has not been established, and the rejection should be withdrawn.

Therefore, Applicants respectfully assert that a *prima facie* case of obviousness has not been established. First, the Examiner has not provided any teaching, suggestion, or motivation in the references themselves. Secondly, the Examiner has not provided any credible teaching, suggestion, or motivation in the knowledge generally available to one of ordinary skill in the art, to combine the Atlas and Ezer references to arrive at Applicants' claimed subject matter. Thirdly, each and every element has not been shown in the references, alone or combined, and fourthly, no reasonable expectation of success has been established.

For the above reasons, independent claim 1 should be found to be allowable over any combination of Atlas and Ezer, and Applicants respectfully request that the rejection of claim 1 under 35 U.S.C. §103(a) as being unpatentable over Atlas in view of Ezer should be withdrawn.

If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious. MPEP §2143.03.

Claims 2-4, which depend from claim 1, directly or indirectly, and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Independent claims 5-6, 10-11, 14-15, 18, and 19, along with their associated dependent claims, were rejected essentially based upon the same grounds as independent claim 1. Applicants respectfully assert that these claims are all patentable over any suggested combination of Atlas and Ezer for the reasons presented earlier regarding independent claim 1. Applicants respectfully requests that the rejection of claims 1-30 under 35 U.S.C. §103(a) as being unpatentable over Atlas in view of Ezer should be withdrawn.

Additional Elements and Limitations

Applicants consider additional elements and limitations of claims 1-30 to further distinguish over the cited references, and Applicants reserve the right to present arguments to this effect at a later date.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6972 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

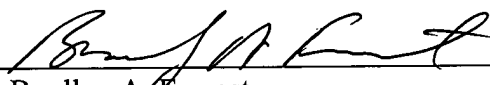
Respectfully submitted,

PAMELA A. BINNS ET AL.

By their Representatives,

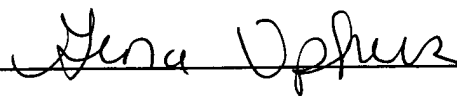
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 18 day of January, 2005.

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